Montana Comprehensive Assessment System (MontCAS, Phase 2)

Criterion-Referenced Test (CRT)

COMMON CONSTRUCTED-RESPONSE ITEM RELEASE
SCIENCE, GRADE 8

2009

OPI

OFFICE OF PUBLIC INSTRUCTION

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Science
Session 1

Write your answer in the space provided for it in your Student Response Booklet.

27. The Andes, the Himalayas, the Alps, and the Rockies are four of Earth's mountain chains. Four hundred million years from now, these mountain chains will no longer be as evident on Earth's surface. New mountain chains will have risen up in other locations on Earth.

    a. Describe in detail **two** processes (destructive forces) that are wearing down these mountain chains.

    b. Describe in detail **two** processes (constructive forces) that are building up new mountain chains.

Scoring Guide

Score	Description
4	Response demonstrates a thorough understanding of destructive and constructive forces. Response describes two destructive forces and two constructive forces. Response contains no errors or omissions.
3	Response demonstrates a general understanding of destructive and constructive forces. Response describes two destructive forces and two constructive forces. Response contains one error or omission.
2	Response demonstrates a limited understanding of destructive and constructive forces. Response describes two destructive forces and two constructive forces. Response contains two errors or omissions.
1	Response demonstrates a minimal understanding of destructive and constructive forces. Response describes two destructive forces and two constructive forces. Response contains several errors or omissions.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Scoring Notes

a. Destructive (Weathering) Forces:

- The abrasion of wind, running water, or glaciers wears away rock.
- The expansion of water as it freezes acts to break apart rock.
- Thermal expansion and contraction caused by temperature changes can break apart rock.
- Organic activity, such as root pry, acts to break apart rock.
- The pull of gravity can result in mass wasting in steep regions of a mountain.
- Chemical actions such as dissolving and decomposition can act to wear down rock surfaces.

Erosion and weathering with good descriptions can both be accepted.

b. Constructive Forces:

- Up thrust is produced when two continental tectonic plates collide.
- Where an oceanic plate sinks under a continental plate, volcanic activity occurs to form volcanic mountains.
- Fault-block mountain formation occurs when rock is pushed upward by fault movements.

Earthquake with good description is acceptable for either part.

Part a is worth 2 points and part b is worth 2 points.

Score Point 4

A. The first destructive force occuring down mountains is erosion, loose sediment from the tops of the mountains are being blown away by high wind or rain. The second factor is earthquakes. When they go off, the mountain rocks crumble like a building.

B. The first constructive force is earthquakes, oddly they destroy and build. When 2 plates collide headon the land muses shoot upward and form mountains. The second factor is volcanos, when they erupt, molten rock shoots out and lands on nearby hills, when it hardens you got the first step of a mountain, and molten rock hardens on top of the volcano making a volcanic mountain

Score Point 3

The Earth's mountain chains are decaying. Wind blows loose dirt and rocks away and rain washes everything away. New mountain chains are being made. There are breaks in the Earth's crust. Lava comes out of these breaks. As the lava cools it hardens. The lava builds up over time to make mountains. The wind can also carry dirt and rocks to hills. The hills can be built up to form mountains. Mountain chains are being destroyed, but at the same time new chains are being built.

Score Point 2

A. One destructive force can be erosion by wind, water, or ice. This force can wear or wash away the mountain until there's nothing left. Another destructive force could be human damage. People might dig it out for tunnels and stuff like that or they might mine the mountain.
B. Fault lines could possibly bring up new mountain chains. Like when they move, mountains can be pushed up from the pressure. Another way is rocks, fossils, and soil building up in one area might eventually form a mountain.

Score Point 1

A) The Atomsphere would be different then now but the water of Streams ecl... would take little pices of The mountians and Breaking them down. Pluse human destinction will take them down

B.) The Prosess of mineral disposite will creat a new cain of mountians created By disposite. and earth-quacks can produce mountians one plate on top of antha one.

Score Point 0

Two processes that are wearing down the mountains are 1.) the decaying dirt. 2) the earths Climate Change. Two processes that are building up mountains is 1.) earthquakes 2.) climate Change.

Science
Session 3

Write your answer in the space provided for it in your Student Response Booklet.

81. Plant and animal cells have similarities and differences.
    a. Describe in detail **two** ways plant and animal cells are similar.
    b. Describe in detail **two** ways plant and animal cells are different.

Scoring Guide

Score	Description
4	Response demonstrates a thorough understanding of the similarities and differences between plant and animal cells. Response completely describes two similarities and two differences. Response contains no errors or omissions.
3	Response demonstrates a general understanding of the similarities and differences between plant and animal cells. Response contains an error or omission.
2	Response demonstrates a limited understanding of the similarities and differences between plant and animal cells. Response contains no errors or omissions.
1	Response demonstrates a minimal understanding of the similarities and differences between plant and animal cells.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Scoring Notes

a. Similarities between Plant and Animal Cells:

- Both plant and animal cells have cell membranes that let things into and out of the cells.
- Both plant and animal cells have a nucleus that directs the activities of the cells.
- Both plant and animal cells have chromosomes, which contain genetic material (DNA).
- Both plant and animal cells are composed of cytoplasm, which is mainly water.
- Both plant and animal cells carry out similar functions such as breaking down food, growing, reproducing, and exchanging gases.

Accept any organelle that is common to both plant and animal cells.

b. Differences between Plant and Animal Cells:

- Plant cells have chloroplasts (chlorophyll) to carry out photosynthesis, but animal cells do not.
- Plant cells have a cell wall for support, but animal cells do not.
- Plant cells tend to have larger vacuoles than animal cells for storing water and other materials.

Part a is worth 2 points and part b is worth 2 points.

Score Point 4

Plant and animal cells both have a nuclues that controls or runs the cell. They both have creytaplasm to transport needed materials to different parts of the cell.
Plants have a chloroplasts to absorb energy from the Sunand animals dont have Chloroplasts Plants have a cell wall to protect it and not let harmful things hurt it and animal cells dont.

Score Point 3

A. Plant and animal cells are the same in how the both have a nucleus to control their actions and movements. They both have cell membranes which only let select material come into the cell.

B. They are different by the plant cell has a cell wall and the animal cell doesn't. the Plant cell also takes in light as energy and the animal cell doesn't.

Score Point 2

Plant and animal cells both have an neculeo to tell the cell what to do, and they both have cell walls. The also have their diffrences! These are some examples, plants have chloraphil and cytophasm while animal cells dont!

Score Point 1

a.) Plant and animal cells are similar. One similarity is that they both have nucleuses that directs its functioning. Another similarity is they both have cell walls that decide what goes in and out of the cell.

b.) Plant and animal cells are different. One difference is plant cells have cytoplasm that makes the plant green. Another difference is that animal cells have flagella to help it move.

Score Point 0

Plant and animal cells have both differences and similarities. Some of the differences are that the cells don't all have the same particles that make up a cell. They also are made differently by how the shape is and what a nodue is between the two. Two things that are alike are that although they aren't exacty alike they still have most of the main parts. Another thing is that they react the same and do the same thing. These are the characters alike and dislikes between plant and animal cells.